1:Beals E-5 (1940-1941)1946 NU34 Tarasco NU34
[p.1946]

291 based on actual inventories of a few middle-class homes and persons.

343 In addition to a house and kitchen, which constitute the Cherán minimum of decent housing, there are also many other structures to be built, mostly by the man himself. If he has burros or cattle, he will have a shed used as a stable when the animals are kept at the house. A pigpen is usually built of small poles, often with a shake roof over all or part of it and an opening to the street. Additional storage space for fodder or straw is often provided, usually a pole construction roofed with shakes. The lot needs to be fenced with poles and the street side preferably should have a wall of stone or stone topped with adobe bricks. A substantial gate with a sheltering roof is regarded as a virtual necessity.

593 Most of the family life goes on in the kitchen.
342 Cooking, eating, and sleeping all take place in the one structure. In fine weather, people may sit outside or sit on the porch of the house. Guests may sleep in the house, and when a son marries he and his bride will occupy the house for a year or more. Much of the business of living takes place in the lot, in the fields and mountains, and in the streets of the town.

593 When children come, the acquisitive activities
556 of the family become even more important.
581 Now, not only is there a desire to secure the minimum of housing, food, and clothing, as well as the property to make these things possible, but there is the urge to obtain resources with which to start the children out in life. Efforts are made to obtain additional fields and to buy lots so that when the children marry they can immediately have their own home and their own means of subsistence in what Cherán residents regard as the most satisfactory way, that is, by possessing sufficient farm lands.

593 As solid citizens the family members will
556 also have additional responsibilities. At least one out of four families will hold a *mayordomía*
554 at some time. The father will also serve as *comisionado* for various fiestas, perform some community labor, and serve on the night watch. He may also take some position in the church organization or occupy some office in the municipal government. If he can read and write he almost certainly will at some time be chosen for an office.

339 In some towns, dried pine needles ("*huinomo*"), wheat, or oat straw are used in place of manure.
[192] In the Sierra, adobes are called adóbi; in Ihuatzio, on Lake Pátzcuaro, iaurúkata.

STONE

316 Masonry is made of assorted-sized rocks brought
333 from a quarry in the west side of the cinder cone on the northwest edge of town. The stone is a porous soft reddish lava, easily broken or dressed roughly with a hammer. It is carried from the
[193] quarry on burros. The rocks are used for all types of masonry walls. Usually large sizes are employed near the bottom and to make the external faces of the wall; smaller stones are used to fill up the spaces, and usually all external surfaces are filled with small stone spalls set in the mud mortar.

316 Large stones used for foundations are a hard gray lava from the arroyo north of town or from the slopes of a cinder cone northeast of town.
[324] The same rock is employed for finished pieces of

[continued on p. 106]

TYPES OF STRUCTURES

WOODEN STRUCTURES

343 Three main kinds of wooden structures are built. These are the "*troje*," or house (trója; in Angahuan, ꞌarímba), really a storehouse in use, the kitchen (kosína), and sheds used for storing fodder or sheltering animals. Normally, a mas-
[335] ter carpenter is employed; he usually works for an agreed price and hires a helper.

The "*troje*" is a rectangular structure, nearly square, consisting of one room with a loft over it (fig. 3; pl. 2, upper). The door is always in one of the long walls and there is usually an overhang of the roof, supported on pillars, forming a veranda on this side. Usually the flooring of the first floor is extended to form a floor for the veranda (fig. 3; pl. 4, lower, left).

343 The "*troje*," or house, is elevated on large stones
335 (or stone pillars in some towns), usually 9 in number, one at each corner, one in the middle of each side, and one at the center of the floor. Upon the stones go four interlocking foundation beams, "*polines*" [3] (píɕekua), and a crosspiece destined to support the middle of the floor, the "*atravesaño de*

[continued bottom page 106]

[3] Also "*parines*," because they are usually made of heartwood (*ɕasïnɔ*).

324 stone work used as doorjambs, door corners, and bases for the pillars of verandas where these rest on the ground.

TILE AND BRICK

339 Tile and brick are little used. Some tile roofs are seen and tiles are sometimes laid over a shake roof when the latter is worn out. Both tile and [317] brick are made from clay occuring near the town. The dry clay is brought to town on burros. The manufacture is carried on in an old chapel, and firing is in a kiln, both located in the church compound. The quality is poor and the demand is small.

MISCELLANEOUS

353 Adobe-and-masonry walls are commonly fin-
439 ished on the inside and, less frequently, on the
[338] outside, with a coat of sand and lime plaster. This material is always imported. So, too, are the pigments used in whitewash or kalsomine finishes employed to decorate plastered walls.

TYPES OF
STRUCTURES

343

FIGURE 3.—Old "*troje*" in Cherán, said to have been built before the Revolution.

343 *la tarima*" (uanájɛukua). The foundation beams
335 are square, from a third to a fourth of a *vara* (about 8 to 10 inches) in cross section, but the crosspiece is thinner by the thickness of the floor boards.

The two longest foundation beams and the

crosspiece, "*atravesaño de la tarima*," are placed first, then the two remaining foundation beams. The lower beams are notched at each intersection to half their thickness on the upper side; the upper beams are similarly notched on the lower side. Very frequently the front and back beams are notched to receive the ends of the floor planks (fig. 4; pl. 4, upper, left).

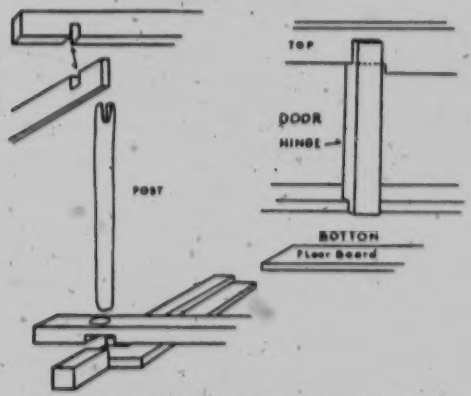

FIGURE 4.—Details of construction of the "*troje*" shown on figure 3.

Upon the foundation beams are placed the floor planks, "*tarima*" (tarújpani) (pl. 4, lower, right). Upon the floor planks are laid one or two more beams, "*planchitas*." One marks the line of the front wall with the door. If there is a wooden floor to the veranda, a second, somewhat heavier beam is laid at the outer edge (pl. 4, upper, right). These beams are morticed to received tenons on the lower ends of the pillars of the veranda and the side frames of the door.

The walls are of logs or, more commonly, of heavy planks set on edge. Both logs and planks are notched to interlock at the corners in the manner of the log cabin of North America and Europe. Assembling planks or logs in this fashion is spoken of as "to chain," "*encadenar*." Two methods of notching planks are used (fig. 5). The number of planks varies somewhat according to the total size of the house. The door is 9 *cuartas* (72 in.) in height, and the front wall up to this point is made of short planks. When four or five planks are in place, giving the required height for the door, the side frames of the door

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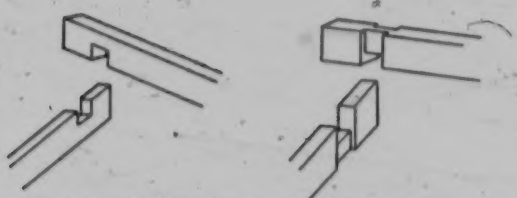

FIGURE 5.—Two methods of notching wall planks. That on the right is more recent and is a tighter fit.

(aŋamárakua) are put in place (pl. 4, lower, left). Each frame has a tenon at the bottom, fitting into a mortice in the "*planchita*," and a groove at the side to receive the wall planks.

Various methods of completing the doorframe are used. The simplest way is to notch the top of the doorframes to receive a long plank extending across the front of the house. Sometimes this plank is ornamented with carving; in this case it may be cut so the lower part is red heartwood, the upper part white sapwood. More often, the doorframe is finished with one or even two special pieces, "*arco de la puerta*" (uiɪ́mukua). These pieces are grooved to receive the upper wall planks (fig. 6).

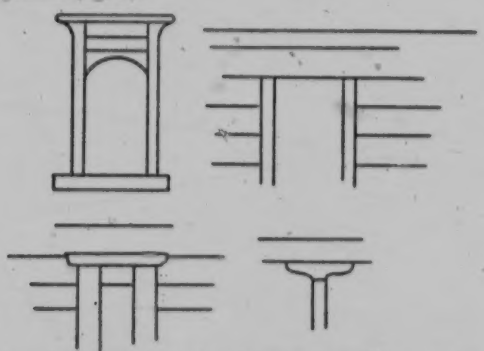

FIGURE 6.—Methods of finishing doorframes, windows, and pillars.

If the veranda is floored, usually four pillars rest on the forward "*planchita*." The pillars are made of heartwood and are usually round but occasionally spindle shaped. Each end has a tenon, the bottom tenon fitting into the "*planchita*" (pl. 4, upper, right), the upper into a capital, *zapata* (fig. 6), or directly into a roof beam, "*arco del portal*" (uanárukua). If no capital is used, the roof beam is often carved into an arch between

[p. 11b]

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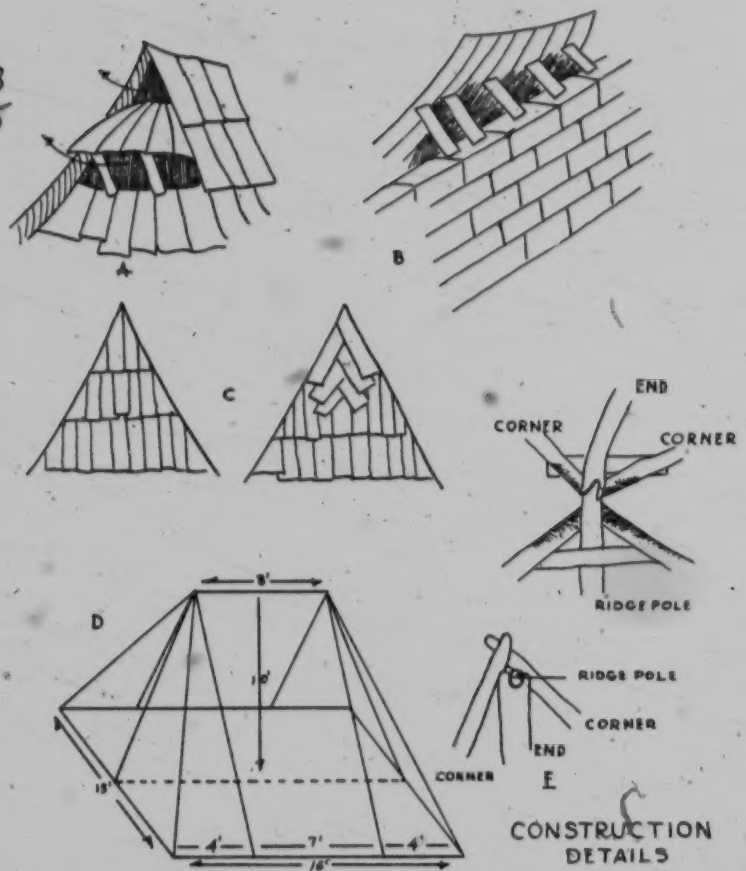

FIGURE 7.—Details of roof construction. *a*, Vent in roof of kitchen; *b*, lean-to kitchen built against an adobe wall with ventilation arrangement; *c*, two ways of finishing shakes at apex of an end roof section; *d*, arrangement of rafters in a small Cherán house; *e*, joining of rafters and ridge pole viewed from outside roof frame; and (above) same seen from inside roof frame.

[p. 12]

343 335 each pillar. In any case, carved ornamentation is common, often covering roof beam, capital, and even the upper part of the pillars (pl. 5, lower, right). The pillars at each end of the veranda usually have a groove to receive the ends of the side-wall beams.

The topmost two wall planks and the beam above the pillars are usually one *vara* longer than the others, and the ends are cut into a curve and often carved. In addition, a special carved piece of red heartwood called a "*cornisa*" may surmount the usual wall.

The top of the wall and the beam supported by the pillars in front of the veranda must now be carefully leveled again. A morticed cross beam, "*atravesaño del tapanco*" (uanáɔekua), is generally placed in the middle of the room at the top of the walls. The ceiling is laid directly over the tops of the walls, and wooden pins attach the two outer planks to the walls. As the ceiling serves as the floor of the attic, the planks are usually of the same thickness as the lower floor. In one corner, almost always over the veranda, but occasionally inside the room, an opening is left to provide access to the loft or attic.

Upon the "*planchas*" is erected the frame of the roof. First are placed the "*tijeras*" (jauárakua) consisting of pairs of fir poles about 1½ *varas* apart. Half of the upper end of each pole is cut away, and the two are nailed together or, more commonly in Cherán, they are fastened with a wooden pin. The lower ends rest in sockets cut in the "*planchas*." Two pairs of rafters are now leaned toward each other and fastened together. Usually, three groups of rafters of four each are used. At each end of the house another rafter is now placed with a deep notch in the upper end. Within this notch is fitted a ridge pole (fig. 7, *d*, *e*). For further strength, pairs of rafters may be braced by crosspieces nailed to them below the apex of the roof.

In other towns the ridge pole is not used (pl. 5, lower, left). Additional smaller rafters may also be added after the main framework is erected, but in Cherán the house normally has 14 rafters of equal size, 3 groups of 4 and 1 at each end supporting a ridge pole.

Stringers, "*fajillas*" or "*costillas*" (látasa), are fastened horizontally to the rafters. The distance apart depends upon the length of shakes used. Nails are ordinarily employed now to fasten the

343 335 [824] stringers, but wooden pegs (tarúju) of pine heartwood or wild crabapple, or string of maguey or bark fibers, may be used. The method of attachment is such that each shed of the roof is a separate unit and, by removing the wooden pins, may be lifted off intact in case it is desired to move the house to another location (pl. 5, upper, right). The stringers are crudely made with ax or saw. They are not measured, but after fastening, any surplus length is cut off.

The shakes are laid in two layers with the thick sides facing in opposite directions (fig. 8). They

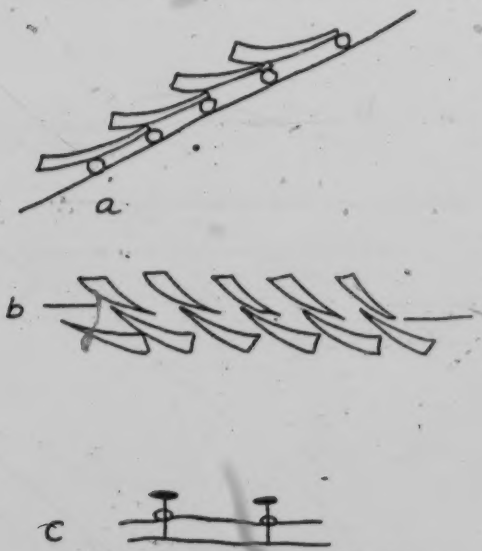

FIGURE 8.—Methods of attaching and laying shakes.

are fastened down now usually with 2- or 3-inch nails. However, they may also be fastened with [824] small pins (piréŋa) of red-pine wood, or, preferably, of wild crab apple, *tejocote*. If pins are employed, a hole is made with an awl. The shakes must be put on while green; otherwise splitting is excessive. If it is necessary to use old shakes, they are first soaked in water.

In addition to the above methods, shakes may be held in place by long thin strips of wood placed on top of the shakes. Stones are placed on the wooden strips at intervals. This method is rarely used now on houses, where the steep pitch of the roofs makes it rather insecure, but it is common on the roofs of sheds and stables and is not infre-

343 [illegible]t on the roofs of kitchens. If the much
335 inferior pine shake is used, the nails usually are not driven all the way in and a length of wire is run from one nail to another, a turn being given about each nail (fig. 8, *c*). This may be done with fir shakes also, in which case the nails are driven all the way in after wiring.

The door is usually carefully made and is bought from a master carpenter. The hinges and latch are usually of metal, although the hardware may be crude. If a well-made door cannot be afforded, however, the door may consist merely of loose upright planks fitting in grooves at top and bottom.

A hinged trapdoor is placed in the opening to the loft. This is usually a well-built door bought from a carpenter and fastened by a stout padlock. A ladder gives access to the door. Sometimes the ladder is a notched log (kékua).

Thirty days is considered the minimum construction time for a house.

343 Some further general comments on houses, or
531 "*trojes*," may be made. Houses with carved
335 ornament are called "*trojes labradas*." The parts decorated may include the beam over the front pillars, the piece over the door, capitals, the upper part of the pillars, and "cornices," or special pieces along the upper walls. A "*troje labrada*" usually is carefully made throughout. Undecorated houses, "*trojes lisas*," may be made crudely with only ax and adze as tools. Small "*trojes lisas*" are virtually the only ones to lack a veranda. Occasionally, heavy planks are not used for the ceiling. Instead, light boards are laid over several cross beams, which also support the "*planchas*," or frames, holding the roof.

343 The size of the "*troje*" is taken from the length
335 of the rear wall. Other dimensions vary according to table 1. Lengths in the table are in *varas*.

TABLE 1.—*Proportions of the houses, or "trojes"*

Length of long side	Length of short side	Height of wall	Rafters	Length of rafters	Shakes
Varas	*Varas*	*Varas*	*Number*	*Varas*	*Number*
5	4½	2½	14	3	400
6	5½	2¾	14	4½	800
7	6½	3	14	5	1,000
8	7½	3	18	6	1,100
9	8	3½	18	6	1,600

[p. 14a]

343 The measure of the back wall is also the length
335 of the front, center, and back foundation beams and the "*planchitas*." The side-wall measure is the length of the short foundation beams; the floor planks are a little shorter. The top wall planks, cornices, the beam over the veranda pillars, the planks for the loft floor, and the "*planchas*" holding the ends of the rafters are all one *vara* longer than the corresponding measurements at the lower floor. "*Trojes*" of 6 or 7 *varas* are the most common.

493 A "*troje*," or house, may be moved completely to a new location in from 1 to 1½ days. Each piece is marked as the structure is dismantled and then reassembled in the same order. As many of
[211] the men cannot read, the side boards are marked with a symbol for each side and then numbered by a series of tally lines. A master carpenter is hired primarily to supervise the work and to make sure that the foundation frame is level.
[602] Relatives of the owner do the rest of the work and are fed, but receive no pay.

343 A "*troje*," or house, may last 50 to 100 years or more, if not destroyed by fire. Cases where "*trojes*" have lasted longer than 80 years are exceptional. However, the roof shakes must be replaced at intervals. Pine shakes last only about 6 years, fir shakes about 10 years.

342 Tarascan kitchens are of two types. The
335 simpler structure is called "*torita*," or kosína tórueri in Cherán (kosína kukuarékata, in Angahuan). It has no loft or veranda. The floor plan is rectangular, with the door on one of the short sides. The roof has two sheds (fig. 9; pls. 5, upper, left; 6, upper, left). Subtypes may be distinguished according to the method of supporting the corner posts. In "*cocinas de pie derecho*," the corner posts rest on wooden foundation beams, while in "*cocinas de horcón*," the corner posts are set in the ground. Further differentiation may be made according to the presence or absence of a ridge pole.

The "*cocina de pie derecho*" starts with four foundation beams of heartwood, morticed at the corners and resting on four small stones. Four corner posts (aŋájtarakua) of heartwood of pine are morticed into the foundation beams. The posts have grooves on two sides to receive the

343 Sheds are usually built leaning against a house
335 or wall. They consist ordinarily of only a sloping roof of shakes supported by a crude home-made framework. The upper end of the roof rests against the house or wall, the lower end is supported by posts. A great variety of crudely built structures is found, serving for hen houses, barns, storage of fodder, or toilets. Crude roofs called "*pestaña*" are also built over entrances to houses and kitchens (pl. 2, upper).

343 Many houses have pigpens made of poles.
231 These often have an entrance directly from the street which can be closed from inside. As a rule pigs roam the streets during the day. At night they must be penned carefully, especially in the outskirts of town. Otherwise, coyotes may kill them.

354 In some house yards there are large domed
[427] ovens, used primarily for making bread. They are often rented to bakers who do not have ovens. The construction is mostly of adobe but sometimes stone is used about the entrance and in foundations. A rough shake roof supported by poles protects the oven from the rain.

343 Temporary shades (ónjetarakua) are built of poles and covered with branches and grass for use in weddings and fiestas.

SPECIALIZATION AND DISTRIBUTION OF SKILLS

463 distribution of skills difficult. The following list of specialists, then, merely gives those who make a major part of their living from the specialty indicated. In some cases, the individuals no doubt get all their living from their professional occupation; in others, they either farm themselves, do farm work, or are employing farmers.

Carpenters	9
Masons	5
Brick and tile makers	2

The above represents a fairly accurate census of those men in Cherán who have special skills and who would be hired for work in their field by others if possible. To put it another way, the average man would recognize that one of these specialists would do a more competent and finished job than he could do himself; consequently, any ordinary man would make some sacrifices to employ these

HOUSE

FURNISHINGS

342 The terms "house," or "*troje*," and "*cocina*" as
343 employed in the Sierra refer to the construction
196 of the house rather than to its use. Normally, each family has a house and a kitchen. In the kitchen, the family cooks, eats, and sleeps. The house serves as a storage place for all types of property. In it also is kept the image of the family saint. Sometimes in place of a "*troje*," a "*cocina de torito*" is floored and used for storage. Despite this shift in use, the structure is still called a "*cocina*," or kitchen.

343 The "*troje*" contains a minimum of furnishings.
353 The loft is used purely for crop storage and usually
779 has no furnishings whatever. The lower floor

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HOUSE
FURNISHINGS

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generally has a table against the wall opposite the door upon which is placed the image of a saint, if the family owns or is carring for one. If not, a picture of a saint will be found behind the table on the wall. Usually, a variety of religious
[353] pictures are tacked or pasted behind or around
[373] the picture or image of the saint. Often candles and a pottery incense burner are on the table; in addition, the table may have a varying number of miscellaneous objects placed there temporarily for safekeeping. The ceiling, especially over the
[353] altar table, may be decorated in colored tissue paper and strings of miniature household objects. Several wooden chairs with arms are kept in the

[p.21d]

343 352 room, the number depending upon the economic status of the family. They are rarely used except to seat visitors. Tin trunks or wooden chests are usually found for storage of clothing. Clothing may also be hung on a pole extending from front to back wall. A sewing machine is a fairly common item of equipment. Rather rarely, the room will contain a wooden bedstead; this again is used

[404]

[354]

FIGURE 15.—Fire hearth of stones. *a*, Space for pots; *b*, space for *comal*.

only for guests, when mats are spread over the bed. In emergencies, the room may also be used for the storage of harvests. A portion of the veranda may also be boarded for this purpose. The second floor is customarily used to store maize on the cob.

[p. 22a]

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SUPPLEMENTARY STRUCTURES

435 The main supplementary structures to be con-
351 sidered are fences, gates, and sheds. The only fences involving expenditure are those of masonry-adobe. Costs are the same per meter as for a house wall.

The gate will vary in cost. Often it may consist of only a few planks, which may be second-hand material secured without cost, or even merely a pole or two laid horizontally across the opening. A well-made *zagudn* gate bought from a carpenter will cost about 17 pesos and up, depending on size. The balance of the gate, including the roof over it, will usually be constructed by the house owner. Ordinarily, the few shakes needed will be left over from house building or may be secured for a few cents.

435 Sheds are usually built by the householder. A
343 sizable shed roof might require a bundle of shakes costing 5 pesos. No nails would be used, the shakes being held down by rough-hewn strips of pine and stones.

COMPARISON OF COSTS

435 It is clear from the foregoing data that a ma-
342 sonry-adobe structure is as cheap or slightly cheaper than a wooden house, or "*troje*." It also has more storage space. On the other hand, it requires somewhat more care in upkeep and also more expense to make it look "right" to the Tarascan. The interior, for example, should have a coat of plaster of either adobe or lime and sand. Preferably, so should the exterior. Both should also be whitewashed or kalsomined. None of these costs are included in the estimates.

435 An interesting comparison is made in table 5
342 of the costs of the following four categories of Tarascan houses:

511 (*a*) What the Tarascan would conceive to be the minimal shelter, which would be far below the Tarascan standard of decency.

(*b*) Housing considered a poor standard but not impossible.

(*c*) A respectable standard for a small family.

(*d*) A high standard for a small family.

Only people of some wealth normally use masonry-adobe structures; consequently, only in this category have I shown costs for this type of housing, without including any "frills" for decoration or finishing.

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USES OF THE TARASCAN HOUSE

STORAGE

343 251 The Cherán house is really a storehouse. The loft and, sometimes, the lower floor are employed for storage of crops and food reserves. The lower floor is used for the storage of clothing, furniture not in immediate use, and for the family altar and the image of the saint. On occasion, it may be used as a sleeping room for guests. Supplementary sheds also may be used for crop storage, especially for fodder for animals.

SLEEPING AND COOKING

362 574 Cooking and eating is all done in the kitchen. Guests may be fed in the kitchen, outside, on the house veranda, or in the house. Female visitors are usually entertained in the kitchen. Male visitors are more apt to be entertained outdoors or on the house veranda, depending on the weather.

362 513 In mountain towns, sleeping is always in the

342 Chiapas, where *ladinos* use tiles or shakes for their houses while Indians continue to use thatch.
177 It seems sound, then, to assume that shakes
[171] were introduced into Mexico by a small group of Spaniards, and that their use spread rapidly and intensely in wooded country. As shakes were probably unknown to a great part of the Spaniards, the Nauatl descriptive word prevailed over the Spanish one.

342 The history of shakes and of interlocked log
171 structures cannot, however, be resolved definitively without taking into account all the data from Middle America. At the present time, log structures are found among the Trique, Mixteca, and Mixe in Oaxaca; in the region between Perote and Jalapa, in the Sierra de Puebla; and among the Tepehuano and the Tarahumara. Shakes have a wider distribution.

343 The modern use of the Spanish word *troje* and
127 the Tarascan *tarímba* (in Angahuan) suggests that these were once granaries which have evolved into the modern wooden house. In the "Relación

[Continued on p.36b]

CONTEMPORARY TARASCAN HOUSING PROBLEMS

362 In the Introduction of this paper, a number of problems were discussed relating to the evaluation of Tarascan housing.

Although accurate determination of value standards for setting ideal goals for Tarascan houses is not pretended, some general conclusions seem possible. Tarascan houses are below the most desirable health standards from the standpoint of dryness, ventilation, protection from cold, and freedom from insects. In general, the wooden type of architecture is less damp and better ventilated. It is perhaps less warm, a deficiency compensated for by use of the fire in the kitchen, with the additional drawback, of course, of smoke irritation of the eyes and respiratory tract. There seems little to choose between the two types of construction from the standpoint of rodents and insects.

Economically, the masonry-adobe type of construction seems to be a little cheaper. For most Sierra Tarascans, however, this advantage is illusory and only holds for those who can afford to hire all the labor done. The masonry-adobe construction calls for the employment of specialists throughout. Most Sierra Tarascan males, on

[p.36a] [Continued bottom of page 36b]

343 de Michoacán" we read about *trojes* for storing
127 food, clothes, and idols, but no reference is made to the shape or building materials of these *trojes*. Probably we have here a precedent to the clear-cut distinction between *troje* and *cocina* of the modern Sierra Tarascans.

342 To summarize, we may conclude that the pre-
174 Hispanic houses were predominantly of adobe,
177 with thatched, four-shed roofs. The Spaniards introduced tile roofs and modifications in the architectural type. On the other hand, new iron tools and building techniques (shakes and probably interlocking logs) favored the use of wood in construction on a large scale. Although wooden houses have their center of distribution in the Sierra, they are still found in the regions of Uruapan, La Cañada, Lake Pátzcuaro, and elsewhere, once having been much more common in those districts. With timber becoming increasingly scarce, adobe construction has virtually displaced wood in the adjoining districts and is invading the Sierra.

CONTEMPORARY TARASCAN
HOUSING PROBLEMS

362 the other hand, are capable of doing a considerable amount of the necessary work on a wooden structure. For those below the higher economic levels, then, it is probable that wooden structures are potentially less expensive than are those of masonry and adobe. In other words, in terms of the distribution of skills within the population, wooden structures are more apt to produce adequate housing if space be the main objective. It should be observed, however, that this probably is not true in many Lake and Cañada villages, where access to timber is absent or difficult, but skill in making adobe bricks is common.

As has been indicated, about 20 percent of the population of Cherán is inadequately housed according to Tarascan standards. For these, any change in housing conditions quite obviously is related to wider economic problems and conditions. What of the other 80 percent according to ideal standards? Until medical determination is made of the proper amount of living space per person in the Tarascan climate, no complete answer to this question can be made. It can be asserted, however, that better housing is possible for most of this 80 percent if two things could be accom-

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Sierra Tarascans

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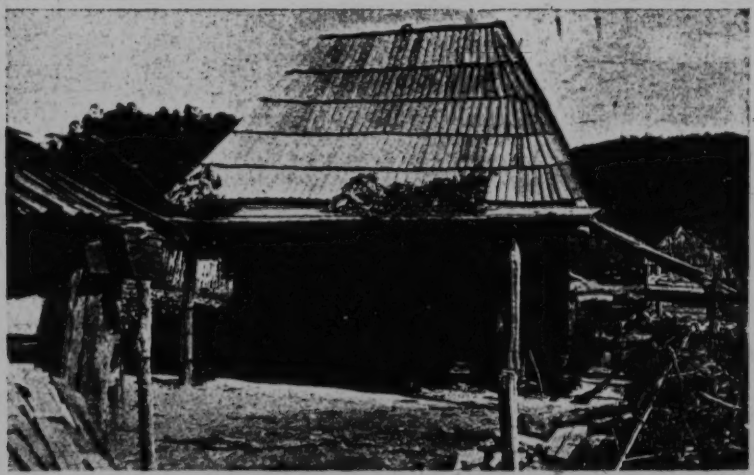

363
351

Upper: "*Troje*" in Angahuan with ajhad in front in place of a veranda. *Lower:* A street on the outskirts of the town of Charán. Fences are carlessly built of dry stone, supplemented by poles.

[End plate 2]

3: Beals, Carrasco & McCorkle E-5 (1940-1942)1944 NU34 Tarasco NU34
Sierra Tarascans

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Upper (left): Kitchen of simple type with corner posts (Angahuan). *Upper (right):* Kitchen of elaborate type (Angahuan). The gate or half door is rare in Cherán. *Middle (left):* Wooden "*troje*" at Ihuatzio, Lake Pátzcuaro, with tile roof and adobe support for the ridge pole. *Middle (right):* Storehouse of style found mainly in Angahuan (ámutakata). *Lower (left):* Large storehouse (ámutakata) over gate. *Lower (center):* Storehouse (ámutakata) with lower part made into a room. *Lower (right):* Storehouse (sahál) in Capacuaro.

[End plate 6]

4: West K-5 (1946) 1948 NU34 Tarasco NU34
[P. 28-C] Sierra

342 the main house. The veranda, too, is used for storing boxes, lumber, etc., and is sometimes employed as a workplace and for sitting and gossiping.

343 The kitchen (kosina) is a separate building, usually less well constructed than the main house. In the Sierra it is often made of thin planks placed vertically and carries a two-shed roof. Kosinas of horizontal interlocked planks and four-shed roofs are sometimes seen. The chimney is unknown; smoke escapes through cracks or especially constructed vents in the roof. The kitchens in the areas outside the Sierra are usually of adobe with two-shed roofs of tile or shakes, some are flimsily constructed of upright planks or of brush, and carry a one-shed roof.[38] Obviously, the kitchen is where food is prepared and eaten;

[Text continues bottom P. 29b]

[38] In some towns where the Spanish L- or U-shaped house is present, the kitchen forms one of the rooms in the main structure.

4: West K-5 (1946) 1948 NU34 Tarasco NU34
[P. 29-b] Sierra

343 being the hearth place and the warmest of the buildings, it is also the main sleeping quarters of the family.[27]

The minor structures include the stable, chicken roosts, and the hogpen, all constructed of logs or rough planks; the gate roof (*puerta de golpe*) in [251] the loft of which maize fodder is often stored; and, in some Sierra towns, special storage buildings, which consist of small wooden sheds on stilts or simply small plank *trojes* resting on a crude stone foundation.[28] The house lot is fenced

[27] For a description of the hearth types and kitchen implements, see Beals, Carrasco, and McCorkle, 1944, pp. 18, 23-24.

[28] The special storage places are called tímuiakata in Angahuan and Charapan, uakáli in Capacuaro. Literally the term "tímuiakata" means "addition," and is also used for the storage space in the gate roof. The *puerta de golpe* occurs not only in Michoacán, where it is most common, but is seen in mestizo towns in the Valley of Mexico. The main purpose of the roof is to keep rain from the wooden gate.

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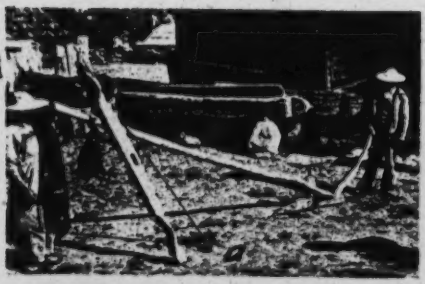
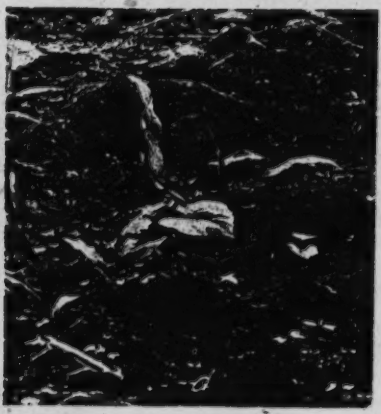
[412]





[343]

PLATE 5.—Modern ploughs. *a*, The Egyptian plow, still widely used in Mexico (Oaxaca). Note straight steel tip (*tejo*), which slips over end-piece of plow (*reja*) and steel nose end of tongue; leather straps used to fasten yoke to horns of oxen. *b*, Planting maize near Cuernavaca, Morelos. The first plow, without upright mirror, is followed by two small boys, who drop seeds at regular intervals. The second plow covers the seeds. *c*, Contour plowing near Cuernavaca. Field of young maize. *d*, Hill of maize and beans in late bend near Chilpancingo. Plants are about 1 week old. *e*, Newly burned dooryard near Apa. Note wood-ash, which will be mixed with underlying soil. *f*, Platform on which maize fodder (*zacate*) is stored. Mexico.

[End-plate 5]